



Commonwealth of Massachusetts

ACTUARIAL VALUATION REPORT

As of January 1, 1998

for the

Hingham

Contributory Retirement System

**Public Employee Retirement
Administration Commission**

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HINGHAM ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION I INTRODUCTION AND CERTIFICATION

This report presents the results of the actuarial valuation of the Hingham Contributory Retirement System. The valuation was performed as of January 1, 1998 pursuant to Chapter 32 of the General Laws of the Commonwealth of Massachusetts.

It is our opinion that the actuarial assumptions used in this report are each reasonably related to plan experience and expectations and represent our best estimate of anticipated experience under the system.

This valuation was based on member data as of December 31, 1997 which was supplied by the retirement board. Such tests as we deemed necessary were performed on the data to ensure accuracy. Asset information as of December 31, 1997 was provided in the Annual Statement for the Financial Condition as submitted to this office in accordance with G.L. c. 32, ss. 20(5)(h), 23(1)(c) and 23(2)(e).

In our opinion, this report represents an accurate appraisal of the actuarial status of the Hingham Contributory Retirement System performed in accordance with generally accepted actuarial principles and practices relating to pension plans.

Respectfully submitted,
Public Employee Retirement
Administration Commission

JAMES R. LAMENZO
Member of the American Academy of Actuaries
Associate of the Society of Actuaries
Enrolled Actuary Number 96-4709

ROBERT F. STALNAKER
Executive Director

Dated: December 30, 1998

HINGHAM ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION II SUMMARY DISCUSSION

PART A Costs under Current Valuation

The results of the January 1, 1998 actuarial valuation are as follows:

Total Normal Cost	\$1,565,585
Employee Contributions	<u>844,869</u>
Net Normal Cost	<u>\$720,716</u>
Total Actuarial Liability	\$49,186,903
Assets	<u>34,786,965</u>
Unfunded Actuarial Liability	<u>\$14,399,938</u>

Please see page 6 for more detail of these amounts.

The most recent funding schedule was effective in FY98. The appropriation for FY99 under the System's approved funding schedule, based upon the results of this valuation, is shown below.

22(D) Current Funding Schedule for the Fiscal Yr. beginning July 1, 1998

	<u>DOLLAR AMOUNT</u>	<u>PERCENT OF PAYROLL</u>
Normal Cost (includes administrative expenses)	\$843,373	7.7%
Amortization of Unfunded Actuarial Liability (19 year level)	<u>\$1,499,431</u>	<u>13.8%</u>
Total Appropriation	<u>\$2,342,804</u>	<u>21.5%</u>

All amounts assume appropriations will be made January 1.

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SECTION II SUMMARY DISCUSSION (Continued)

PART B Comparison with Prior Valuation

The last full valuation was performed by Buck Consultants as of January 1, 1996. The calculations in both reports were based on similar assumptions. Below we have shown the comparison between the Buck valuation as of January 1, 1996 and the valuation completed by PERAC as of January 1, 1998.

	<u>PERAC</u> <u>1/1/98</u>	<u>BUCK</u> <u>1/1/96</u>	<u>Increase</u> <u>(Decrease)</u>	<u>Increase</u> <u>(Decrease)</u>
Total Normal Cost	\$1,565,585	\$1,235,054	\$330,531	26.8%
Employee Contributions	<u>844,869</u>	<u>676,354</u>	<u>168,515</u>	24.9%
Net Normal Cost	<u>\$720,716</u>	<u>\$558,700</u>	<u>\$162,016</u>	29.0%
Actuarial Liability				
Actives	\$23,466,310	N/A	N/A	N/A
Retirees and Inactives	<u>25,720,593</u>	<u>N/A</u>	<u>N/A</u>	N/A
Total	\$49,186,903	\$42,461,163	\$6,725,740	15.8%
Assets	34,786,965	24,236,711	10,550,254	43.5%
Unfunded Actuarial Liability	<u>\$14,399,938</u>	<u>\$18,224,452</u>	<u>(\$3,824,514)</u>	(21.0%)
Funded Ratio	<u>70.7%</u>	<u>57.1%</u>	<u>13.6%</u>	

We have shown below a comparison of the number of members, payroll amounts, average age and average service.

	<u>PERAC</u> <u>1/1/98</u>	<u>BUCK</u> <u>1/1/96</u>	<u>%</u> <u>Difference</u>
<u>Actives</u>			
Number	368	359	2.5%
Total Payroll	\$10,919,733	\$10,109,832	8.0%
Average Salary	\$29,673	\$28,161	5.4%
Average Age	47.9	46.9	2.1%
Average Service	10.8	10.7	0.9%

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SECTION II SUMMARY DISCUSSION (Continued)

PART B Comparison with Prior Valuation (continued)

	PERAC <u>1/1/98</u>	BUCK <u>1/1/96</u>	% <u>Difference</u>
<u>Retirees and Survivors</u>			
Number	231	233	(0.9%)
Total Benefits*	\$2,806,459	\$2,457,808	14.2%
Average Benefits*	\$12,149	\$10,549	15.2%
Average Age	71.0	70.1	1.3%

*excluding State reimbursed COLA

The liabilities in this valuation are greater than expected based upon the January 1, 1996 valuation. Since payroll increases were less than assumed, which decreased the expected liability over the two year period, we expect much of this result is due to the difference in the actuarial methodologies used in the valuation process for reviewing and “cleaning” data and determining plan liabilities, as well as the differences in the valuation programs.

PART C Considerations for the Future

Appropriations have been made in accordance with the current funding schedule, since fiscal year 1998. The funding schedule presented in this report is a continuation of the present schedule. This schedule amortizes the unfunded actuarial liability through 2017 with level payments and includes estimated administrative expenses.

Chapter 17 of the Acts of 1997 revised the manner in which Cost of Living Adjustments (COLA) are granted to public pension retirees. If a system adopts the COLA provisions and the Retirement Board approves a COLA for a given year, all retirees of the system would receive annual COLA increases up to 3.0% based on the Consumer Price Index used in determining Cost of Living Adjustments under Social Security.

The basis on which the COLA will be applied is \$12,000. The system would pay for any COLA granted after 1997.

Since the system has not adopted Chapter 17, the 1998 valuation amounts do not reflect the impact of the COLA legislation.

We are available to work with you in determining alternative funding schedules at your request.

SECTION II
SUMMARY DISCUSSION (Continued)

PART D Other Information Available in this Report

The valuation results by type of benefit are on page 6. On page 7 is the development of the required appropriation amounts. On page 8 is the updated current funding schedule based on the Hingham Retirement Board's acceptance of section 22D.

For purposes of filing financial statements, the Governmental Accounting Standards Board (GASB) issued Statement No. 25 in November, 1994. The requirements of statement 25 are effective for periods beginning after June 15, 1996. The actuarial information required by this statement is on page 9 of this report.

In addition, we have included a summary of asset information on page 10. For purposes of developing the Unfunded Actuarial Liability, we have used the market value of assets. In future years, an actuarial value of assets will be established consisting of a five-year average of market values. This will serve to reflect market values, but will moderate the fluctuations that can occur if an unadjusted market value is used each year.

On pages 11 to 14, demographic information regarding the members of the Hingham System is presented. These charts display age, service and salary information for active members and age and benefit information for retirees and survivors.

A description of the funding method used in calculating valuation results is on page 15, and the actuarial assumptions used are on pages 16 and 17.

A brief summary of plan provisions appears on pages 18 to 22, followed by a glossary of actuarial terminology on pages 23 to 24.

HINGHAM ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION III SUMMARY OF VALUATION RESULTS

A. Number of Members on Current Valuation Date	
1. Active Members	368
2. Vested Terminated Members	5
3. Retired Members and Survivors	<u>231</u>
Total	604
 B. Total Regular Compensation of Active Members	 \$10,919,733
 C. Normal Cost	
1. Superannuation	\$951,577
2. Termination	58,596
3. Disability	401,774
4. Death	<u>153,638</u>
 Total Normal Cost	 \$1,565,585
Employee Contribution	844,869
Net Employer Normal Cost	<u>\$720,716</u>
 D. Actuarial Liability	
1. Superannuation	\$18,864,693
2. Termination	202,887
3. Disability	2,975,515
4. Death	<u>1,423,215</u>
 Total Actives	 \$23,466,310
Vested Terminated Members	7,584
Non-Vested Terminated Members	73,762
 Retirees and Survivors	 <u>25,639,247</u>
Total Actuarial Liability	\$49,186,903
 Assets	 <u>34,786,965</u>
 Unfunded Actuarial Liability	 <u>\$14,399,938</u>
Funded Ratio (Ratio of Assets to Actuarial Liability)	70.7%

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SECTION IV
APPROPRIATION DEVELOPMENT FOR THE FISCAL YEAR 1999

Part A. Derivation of Appropriation

Costs under Current Funding Schedule

1. a. Normal Cost as of January 1, 1998	\$720,716
b. For FY99	778,373
c. Administrative Expense	65,000
d. Total Employer Normal Cost	843,373
2. a. Unfunded Actuarial Liability as of January 1, 1998	\$14,399,938
b. FY99 amortization payment (19 year level)	1,499,431
3. Total FY 99 Payment [Sum of 1(d) and 2(b)]	\$2,342,804

NOTE: All costs assume the appropriation will be paid January 1.

HINGHAM ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION IV

APPROPRIATION DEVELOPMENT FOR THE FISCAL YEAR 1999 (Continued)

Part B Current 22D Amortization Schedule

<i><u>Fiscal Year</u></i>	<i><u>Normal Cost</u></i>	<i><u>Amort Of UAL</u></i>	<i><u>Total Cost</u></i>	<i><u>BOFY Balance</u></i>
1999	843,373	1,499,431	2,342,804	14,975,936
2000	889,759	1,499,431	2,389,190	14,614,602
2001	938,696	1,499,431	2,438,127	14,224,362
2002	990,324	1,499,431	2,489,755	13,802,903
2003	1,044,792	1,499,431	2,544,223	13,347,727
2004	1,102,255	1,499,431	2,601,686	12,856,137
2005	1,162,879	1,499,431	2,662,310	12,325,219
2006	1,226,838	1,499,431	2,726,269	11,751,829
2007	1,294,314	1,499,431	2,793,745	11,132,567
2008	1,365,501	1,499,431	2,864,932	10,463,764
2009	1,440,603	1,499,431	2,940,034	9,741,457
2010	1,519,837	1,499,431	3,019,268	8,961,365
2011	1,603,428	1,499,431	3,102,859	8,118,866
2012	1,691,616	1,499,431	3,191,047	7,208,967
2013	1,784,655	1,499,431	3,284,086	6,226,276
2014	1,882,811	1,499,431	3,382,242	5,164,970
2015	1,986,366	1,499,431	3,485,797	4,018,759
2016	2,095,616	1,499,431	3,595,047	2,780,852
2017	2,210,875	1,499,431	3,710,306	1,443,912
2018	2,332,473		2,332,473	0

All amounts assume payments will be made January 1 of each fiscal year

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SECTION V GASB STATEMENT NO. 25 - ACTUARIAL INFORMATION

In November of 1994, GASB issued Statements No. 25, 26 and 27, relating to Financial Reporting and Accounting for Pension Plans. We have included in this report the actuarial information required by Statement No. 25. The requirements of Statement 25 are effective for periods beginning after June 15, 1996.

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)* (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Cov. Payroll ((b-a)/c)
1/1/98	\$34,786,965	\$49,186,903	\$14,399,938	70.7%	\$10,919,737	131.9%
1/1/96	\$24,236,711	\$42,461,163	\$18,224,452	57.1%	\$10,109,832	180.3%
1/1/95	\$19,331,485	\$38,149,134	\$18,817,649	50.7%	\$9,685,311	194.3%
1/1/94	\$18,706,292	\$35,876,452	\$17,170,160	52.1%	\$8,800,091	195.1%

*excludes State reimbursed COLA

NOTES TO SCHEDULES

Additional information as of the latest actuarial valuation follows:

Valuation Date	January 1, 1998
Actuarial Cost Method	Individual entry age normal
Amortization method	Approximate level percent of payroll
Remaining amortization period	19 years
Asset valuation method	Market value
Actuarial assumptions:	
Investment rate of return	8%
Projected salary increases	5 ½%

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SECTION VI HINGHAM ASSETS 12/31/97

A. Breakdown of Assets by Investment Type

Type

Cash and Cash Equivalents	\$28,488.49
PRIT Capital Fund	33,489,253.11
Accounts Receivable	1,277,055.95
Accounts Payable	(7,832.32)
TOTAL	\$34,786,965.23

B. Breakdown of Assets by Fund

Annuity Savings Fund	\$8,848,880.52
Annuity Reserve Fund	3,727,451.53
Military Service Fund	2,683.93
Pension Fund	2,135,329.26
Expense Fund	0.00
Pension Reserve Fund	20,072,619.99
TOTAL	\$34,786,965.23

C. <u>Market Value of Assets</u>	\$34,786,965.23
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SECTION VII INFORMATION ON SYSTEM MEMBERSHIP

A critical element of an actuarial valuation is accurate and up-to-date membership information. PERAC conducted an extensive review of actual member information submitted as of 12/31/97 by Hingham.

Part A Active Members

	<u>Actives</u>	<u>Vested Terms.</u>
Number of Members	368	5
Average Age	47.9	52.9
Average Service	10.8	14.7
Average Salary	\$29,673	\$38,058
Average Annuity Savings Fund Balance	\$23,496	\$25,658

Age by Service Distribution of Active Members

Years of Service

<i>Present Age</i>	<i>0 - 4</i>	<i>5 - 9</i>	<i>10 - 14</i>	<i>15 - 19</i>	<i>20 - 24</i>	<i>25 - 29</i>	<i>30 +</i>	Total
0-24	3							3
25-29	10	1	1					12
30-34	13	9	8					30
35-39	15	6	13					34
40-44	18	8	12	10	5			53
45-49	25	11	11	9	14	6		76
50-54	21	14	12	4	5	9	6	71
55-59	7	5	7	6	3	7	4	39
60-64	3	9	6	4	0	2	4	28
65 +	4	2	3	4	3	4	2	22
Total	119	65	73	37	30	28	16	368

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SECTION VII INFORMATION ON SYSTEM MEMBERSHIP (Continued)

Part A Active Members (continued)

Salary by Age Distribution of Active Members

<i>Present Age</i>	<i>Number of Participants</i>	<i>Total Salary</i>	<i>Average Salary</i>
0 - 24	3	\$58,513	\$19,504
25 - 29	12	376,252	31,354
30 - 34	30	1,007,899	33,597
35 - 39	34	955,607	28,106
	1*	67,660	67,660
40 - 44	53	1,652,602	31,181
	1*	62,335	62,335
45 - 49	76	2,291,508	30,151
50 - 54	71	2,023,171	28,495
55 - 59	39	1,244,589	31,913
	1*	25,350	25,350
60 - 64	28	823,772	29,420
	2*	34,944	
65 +	22	485,821	17,472
Total	368	\$10,919,733	\$29,673
	5*	\$190,290	\$38,058

* Vested Terminated Members

Actual Employee Contributions made during 1997: \$793,341

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SECTION VII INFORMATION ON SYSTEM MEMBERSHIP (Continued)

Part B Retirees and Survivors

	<i>Superannuation</i>	<i>Accidental Disability</i>	<i>Ordinary Disability</i>	<i>Survivors</i>	Total
Number of Members	182	16	4	29	231
Average Age	72.6	63.1	70.8	64.8	71.0
Avg. Annual Benefit	\$13,122	\$23,044	\$10,516	\$9,140	\$13,264

Benefit by Payment and Retirement Type

	<i>Superannuation</i>	<i>Accidental Disability</i>	<i>Ordinary Disability</i>	<i>Survivors</i>	Total
Total Annuity	\$298,637	\$27,293	\$2,600	\$20,626	\$349,156
Pension from Hingham	1,846,732	315,801	28,066	200,892	\$2,391,491
Pension from Other Systems	65,354	0	0	459	\$65,813
COLA	177,505	25,611	11,396	43,083	\$257,595
Total	\$2,388,228	\$368,705	\$42,062	\$265,060	\$3,064,055

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SECTION VII
INFORMATION ON SYSTEM MEMBERSHIP (Continued)

Part B Retirees and Survivors (continued)

Benefit by Age Distribution

<i>Present Age</i>	<i>Number of Members</i>	<i>Total Benefits</i>	<i>Average Benefits</i>
less than 40	2	\$24,571	\$12,285
40 - 44	2	7,908	\$3,954
45 - 49	4	64,204	\$16,051
50 - 54	4	101,084	\$25,271
55 - 59	13	279,070	\$21,467
60 - 64	26	522,545	\$20,098
65 - 69	50	759,827	\$15,197
70 - 74	44	597,946	\$13,590
75 - 79	41	393,451	\$9,596
80 - 84	30	223,972	\$7,466
85 - 89	8	50,730	\$6,341
90 +	7	38,747	\$5,535
Totals	231	\$3,064,055	\$13,264

SECTION VIII
VALUATION COST METHODS

Part A Actuarial Cost Method

The Actuarial Cost Method which was used to determine pension liabilities and costs for benefits payable for the Hingham Contributory Retirement System for the year beginning January 1, 1998, is known as the Entry Age Normal Cost Method. Under this method the Normal Cost for each active participant on the valuation date is determined as the level percent of salary, which, if paid annually from the date the participant first became a member of the retirement system, would fully fund by retirement, death, disability or termination, the projected benefits which the participant is expected to receive. The Actuarial Liability for each participant is determined as the present value as of the valuation date of all projected benefits which the participant is expected to receive, minus the present value of future annual Normal Cost payments expected to be made to the fund. Since only active members have a Normal Cost, the Actuarial Liability for inactives, retirees and survivors is simply equal to the present value of all projected benefits. The sum of Normal Cost and Actuarial Liability for each participant is equal to the Normal Cost and Actuarial Liability for the Plan. The Unfunded Actuarial Liability is the Actuarial Liability minus current assets.

The Normal Cost for a participant will remain a level percent of salary for each year of participation except for changes in provisions of the Plan or the actuarial assumptions employed in projection of benefits and present value determinations. The Normal Cost for the entire system will also change due to addition of new participants or the retirement, death or termination of participants. The Actuarial Liability for a participant will increase each year to reflect the additional accrual of Normal Cost. It will also change if the Plan provisions or actuarial assumptions are changed.

Differences each year between the actual experience of the Plan and the experience projected by the actuarial assumptions are reflected by adjustments to the Unfunded Actuarial Liability. An experience difference which increases the Unfunded Actuarial Liability is called an Actuarial Loss and one which decreases the Unfunded Actuarial Liability is called an Actuarial Gain.

Part B Asset Valuation Method

Assets are at market value.

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SECTION IX ACTUARIAL ASSUMPTIONS

<u>Rate of Investment Return</u>	8% per year
<u>Rate of Salary Increase</u>	5 ½% per year
<u>Interest Rate credited to the Annuity Savings Fund</u>	5 ½% per year

Mortality Rate 1983 Group Annuity Mortality Table (gender distinct). This is applicable to both pre-retirement and post-retirement benefits. For disabled members, the mortality rate is assumed to be in accordance with the 1983 Group Annuity Mortality Table (gender distinct) with ages set forward 10 years. It is assumed that 55% of pre-retirement deaths are job-related for Group 1 and 2 members and 90% are job-related for Group 4 members. For members retired under an Accidental (job-related) Disability 40% of deaths are assumed to be from the same cause as the disability.

Rate of Withdrawal In accordance with Table T-5 published in Pension Actuary's Handbook: Crocker, Sarason, and Straight, 1955. Sample annual rates are shown below:

<u>Age</u>	<u>Groups 1&2</u>
20	0.0794
30	0.0722
40	0.0515
50	0.0256

No termination was assumed for Group 4 members

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SECTION IX ACTUARIAL ASSUMPTIONS (Continued)

Rate of Disability

Based on an analysis of past experience. Sample annual rates are shown below:

<u>Age</u>	<u>Groups 1&2</u>	<u>Group 4</u>
20	0.0006	0.0012
30	0.0011	0.0022
40	0.0024	0.0048
50	0.0061	0.0122

It is also assumed that 55% of disabilities will be job-related for Group 1 and 2 members and 90% will be job-related for Group 4 members.

Rate of Retirement (Superannuation)

Based on an analysis of past experience. Annual rates are shown below:

<u>Age</u>	<u>Groups 1&2</u>	<u>Group 4</u>
50	0.0000	0.1000
51	0.0000	0.0200
52	0.0000	0.0200
53	0.0000	0.0200
54	0.0000	0.0200
55	0.1000	0.2500
56	0.0500	0.0500
57	0.0500	0.0500
58	0.0500	0.0500
59	0.0500	0.0500
60	0.0500	0.2500
61	0.0500	0.0500
62	0.2500	0.0500
63	0.1000	0.0500
64	0.1000	0.0500
65	0.1000	1.0000
66	0.1000	
67	1.0000	

Administrative Expenses

An amount of \$65,000 has been included in the Normal Cost for FY99. This amount is assumed to increase by the salary increase assumption each year.

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SECTION X SUMMARY OF PLAN PROVISIONS

ADMINISTRATION : There are 106 contributory Retirement Systems for public employees in Massachusetts. Each system is governed by a retirement board and all boards, although operating independently, are governed by one retirement law, Chapter 32 of the Massachusetts General Laws. This law in general provides uniform benefits, uniform contribution requirements and a uniform accounting and funds structure for all systems.

PARTICIPATION : Participation is mandatory for all full-time employees. Eligibility with respect to part-time, provisional, temporary, seasonal or intermittent employment is governed by regulations promulgated by the retirement board, and approved by PERAC. Membership is optional for certain elected officials.

There are 3 classes of membership in the Retirement System:

Group 1 - General employees, including clerical, administrative, technical and all other employees not otherwise classified.

Group 2 - Certain specified hazardous duty positions.

Group 4 - Police officers, firefighters, and other specified hazardous positions.

MEMBER CONTRIBUTIONS : Member contributions vary depending on the most recent date of membership:

Prior to 1975 - 5% of regular compensation

1975 - 1983 - 7% of regular compensation

1984 to 6/30/96 - 8% of regular compensation

7/1/96 to present - 9% of regular compensation

1979 to present - an additional 2% of regular compensation in excess of \$30,000.

RATE OF INTEREST : Regular Interest on regular deductions made after January 1, 1984 is a rate established by PERAC in consultation with the Commissioner of Banks. The rate is obtained from the average rates paid on individual savings accounts by a representative sample of at least 10 financial institutions.

RETIREMENT AGE : The mandatory retirement age for some Group 2 and Group 4 employees is age 65. Most Group 2 and Group 4 members may remain in service after reaching age 65. Group 4 members who are employed in certain public safety positions are required to retire at age 65. There is no mandatory retirement age for employees in Group 1.

HINGHAM ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION X SUMMARY OF PLAN PROVISIONS (Continued)

SUPERANNUATION RETIREMENT : A member is eligible for a superannuation retirement allowance (service retirement), upon meeting the following conditions:

completion of 20 years of service, or

attainment of age 55 if hired prior to 1978, or if classified in Group 4, or

hired after 1978, with 10 years of service and age 55.

AMOUNT OF BENEFIT : A member's annual allowance is determined by multiplying average salary by a benefit rate related to the member's age and job classification at retirement, and the resulting product by his creditable service. The amount determined by the benefit formula cannot exceed 80% of the employees' highest three year average salary. For veterans as defined in G.L. c. 32, s. 1, there is an additional benefit of \$15 per year for each year of creditable service, up to a maximum of 20 years.

Salary is defined as gross regular compensation.

Average Salary is the average annual rate of regular compensation received during the 3 consecutive years that produce the highest average, or, if greater, during the last three years (whether or not consecutive) preceding retirement.

The Benefit Rate varies with the member's retirement age, but the highest rate of 2.5% applies to Group 1 employees who retire at or after age 65, Group 2 employees who retire at or after age 60, and to Group 4 employees who retire at or after age 55. A .1% reduction is applied for each year of age under the maximum age for the member's group. For Group 2 employees who terminate from service under age 55, the benefit rate for a Group 1 employee shall be used.

DEFERRED VESTED BENEFIT : A participant who has completed 10 or more years of creditable service is eligible for a deferred vested retirement benefit. Elected officials and others who were hired prior to 1978 may be vested after 6 years in accordance with G.L. c. 32, s. 10.

The participant's accrued benefit is payable commencing at age 55, or the completion of 20 years, or may be deferred until later at the participant's option.

WITHDRAWAL OF CONTRIBUTIONS : If a member is under age 55, member contributions may be withdrawn upon termination of employment. Employees who first become members on or after January 1, 1984, may receive only limited interest on their contributions if they voluntarily terminate their service. Those who leave service with less than 5 years receive no interest; those who leave service with greater than 5 but less than 10 years receive 50% of interest.

SECTION X
SUMMARY OF PLAN PROVISIONS (Continued)

DISABILITY RETIREMENT : The Massachusetts Retirement Plan provides 2 types of disability retirement benefits:

Ordinary Disability:

Eligibility: Non-veterans who become totally and permanently disabled by reason of a non-job related condition before attaining age 55 with at least 10 years of creditable service (or 15 years creditable service in systems in which the local option contained in G.L. c. 32, s.6(1) has not been adopted).

Veterans with ten years of creditable service who become totally and permanently disabled by reason of a non-job related condition prior to reaching "maximum age".

Retirement Allowance: Equal to the accrued superannuation retirement benefit as if the member was age 55. If the member is a veteran, the benefit is 50% of the member's final rate of salary during the preceding 12 months, plus an annuity based upon accumulated member contributions plus credited interest. If the member is over age 55, he or she will receive not less than the superannuation allowance to which he or she is entitled.

Accidental Disability:

Eligibility: Applies to members who become permanently and totally incapacitated for further duty as a result of a personal injury sustained or hazard undergone while in the performance of duties. There are no minimum age or service requirements. The member must file his or her application prior to attaining statutory "maximum age."

Retirement Allowance: 72% of salary plus an annuity based on accumulated member contributions, with interest. This amount is not to exceed 100% of pay. For those who became members in service after January 1, 1988 or who have not been members in service continually since that date, the amount is limited to 75% of pay. There is an additional pension of \$501.36 per year (or \$312.00 per year in systems in which the local option contained in G.L. c. 32, s.7(2)(b)(iii) has not been adopted), per child who is under 18 at the time of the member's retirement, with no age limitation if the child is mentally or physically incapacitated from earning. The additional pension may continue up to age 21 for any child who is a full time student at an accredited educational institution. Those who became members in service after January 1, 1988 or who have not been members in service continually since that date.

SECTION X
SUMMARY OF PLAN PROVISIONS (Continued)

ACCIDENTAL DEATH

Eligibility: Applies to members who die as a result of a work-related injury or if the member was retired for accidental disability and the death was the natural and proximate result of the injury or hazard undergone on account of which such member was retired.

Allowance: An immediate payment to a named beneficiary equal to the accumulated deductions at the time of death, plus a pension equal to 72% of current salary and payable to the surviving spouse, dependent children or the dependent parent, plus a supplement of \$312 per year, per child, payable to the spouse or legal guardian until all dependent children reach age 18 or 21 if a full time student, unless mentally or physically incapacitated.

The surviving spouse of a member of a police or fire department or any corrections officer who, under specific and limited circumstances detailed in the statute, suffers an accident and is killed or sustains injuries resulting in his death, may receive a pension equal to the maximum salary for the position held by the member upon his death. In addition, an eligible family member may receive a one time payment of \$100,000.00 from the State Retirement Board.

DEATH AFTER ACCIDENTAL DISABILITY RETIREMENT

Effective November 7, 1996, Accidental Disability retirees were allowed to select Option C at retirement and provide a benefit for an eligible survivor. For Accidental Disability retirees prior to November 7, 1996, who could not select Option C, if the member's death is from a cause unrelated to the condition for which the member received accidental disability benefits, a surviving spouse will receive an annual allowance of \$6,000 until remarriage or death.

DEATH IN ACTIVE SERVICE :

Eligibility: At least 2 years of service

Allowance: An immediate allowance equal to that which would have been payable had the member retired and elected Option C on the day before his or her death. For death occurring prior to the member's superannuation retirement age, the age 55 benefit rate is used. The minimum annual allowance payable to the surviving spouse of a member in service who dies with at least two years of creditable service is \$3,000, provided that the member and the spouse were married for at least one year and living together on the member's date of death.

The surviving spouse of such a member in service receives an additional allowance equal to the sum of \$1,440 per year for the first child and \$1,080 per year for each additional child until all dependent children reach age 18 or 22 if a full time student, unless mentally or physically incapacitated.

SECTION X
SUMMARY OF PLAN PROVISIONS (Continued)

COST OF LIVING

If a system has accepted Chapter 17 of the Acts of 1997, and the Retirement Board votes to pay a cost of living increase for that year, the percentage is determined based on the increase in the Consumer Price Index used for indexing Social Security benefits, but cannot exceed 3.0%. The first \$12,000 of a retiree's total allowance is subject to a cost-of-living adjustment. The total Cost-of-Living adjustment for periods from 1981 through 1996 is paid for by the Commonwealth of Massachusetts.

METHODS OF PAYMENT

A member may elect to receive his or her retirement allowance in one of 3 optional forms of payment.

Option A: Total annual allowance, payable in monthly installments, commencing at retirement and terminating at the member's death.

Option B: A reduced annual allowance, payable in monthly installments, commencing at retirement and terminating at the death of the member, provided, however, that if the total amount of the annuity portion received by the member is less than the amount of his or her accumulated deductions, including interest, the difference or balance of his accumulated deductions will be paid in a lump sum to the retiree's beneficiary or beneficiaries of choice.

Option C: A reduced annual allowance, payable in monthly installments, commencing at retirement. At the death of the retired employee, $\frac{2}{3}$ of the allowance is payable to the member's designated beneficiary (who may be the spouse, or former spouse who remains unmarried for a member whose retirement becomes effective on or after February 2, 1992, child, parent, sister, or brother of the employee) for the life of the beneficiary. For members who retired on or after January 12, 1988, if the beneficiary pre-deceases the retiree, the benefit payable increases (or pops up) to the amount which would have been payable under Option A. Option C became available to accidental disability retirees on November 7, 1996.

ALLOCATION OF PENSION COSTS : If a member's total creditable service was partly earned by employment in more than one retirement system, the cost of the "pension portion" is allocated between the different systems pro rata based on the member's service within each retirement system.

SECTION XI
GLOSSARY OF TERMS

ACTUARIAL ACCRUED LIABILITY That portion of the Actuarial Present Value of pension plan benefits which is not provided by future Normal Costs or employee contributions. It is the portion of the Actuarial Present Value attributable to service rendered as of the Valuation Date.

ACTUARIAL ASSUMPTIONS Assumptions, based upon past experience or standard tables, used to predict the occurrence of future events affecting the amount and duration of pension benefits, such as: mortality, withdrawal, disablement and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; and any other relevant items.

ACTUARIAL COST METHOD (or FUNDING METHOD) A procedure for allocating the Actuarial Present Value of all past and future pension plan benefits to the Normal Cost and the Actuarial Accrued Liability.

ACTUARIAL GAIN OR LOSS (or EXPERIENCE GAIN or LOSS) A measure of the difference between actual experience and that expected based upon the set of Actuarial Assumptions, during the period between two Actuarial Valuation dates.

Note: The effect on the Accrued Liability and/or the Normal Cost resulting from changes in the Actuarial Assumptions, the Actuarial Cost Method or pension plan provisions would be described as such, not as an Actuarial Gain (Loss).

ACTUARIAL PRESENT VALUE The dollar value on the valuation date of all benefits expected to be paid to current members based upon the Actuarial Assumptions and the terms of the Plan.

AMORTIZATION PAYMENT That portion of the pension plan appropriation which represents payments made to pay interest on and the reduction of the Unfunded Accrued Liability.

ANNUAL STATEMENT The statement submitted to PERAC each year that describes the asset holdings and Fund balances as of December 31 and the transactions during the calendar year that affected the financial condition of the retirement system.

ANNUITY RESERVE FUND The fund into which total accumulated deductions, including interest, is transferred at the time a member retires, and from which annuity payments are made.

ANNUITY SAVINGS FUND The fund in which employee contributions plus interest credited are held for active members and for former members who have not withdrawn their contributions and are not yet receiving a benefit (inactive members).

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SECTION XI GLOSSARY OF TERMS (Continued)

ASSETS The value of securities as described in Section VIII.

COST OF BENEFITS The estimated payment from the pension system for benefits for the fiscal year. This is the minimum amount payable during the first six years of some Funding Schedules.

EXPENSE FUND The fund into which the appropriation for administrative expenses is paid and from which all such expenses are paid.

FUNDING SCHEDULE The schedule based upon the most recently approved actuarial valuation which sets forth the amount which would be appropriated to the pension system in accordance with Section 22D of M.G.L. Chapter 32.

GASB Governmental Accounting Standards Board

NORMAL COST Total Normal Cost is that portion of the Actuarial Present Value of pension plan benefits which is to be paid in a single fiscal year. The Employee Normal Cost is the amount of the expected employee contributions for the fiscal year. The Employer Normal Cost is the difference between the Total Normal Cost and the Employee Normal Cost.

PENSION FUND The fund into which appropriation amounts as determined by PERAC are paid and from which pension benefits are paid.

PENSION RESERVE FUND The fund which shall be credited with all amounts set aside by a system for the purpose of establishing a reserve to meet future pension liabilities. These amounts would include excess interest earnings.

SPECIAL FUND FOR MILITARY SERVICE CREDIT The fund which is credited with amounts paid by the Hingham Retirement Board equal to the amount which would have been contributed by a member during a military leave of absence as if the member had remained in active service of the Hingham. In the event of retirement or a non-job related death, such amount is transferred to the Annuity Reserve Fund. In the event of termination prior to retirement or death, such amount shall be transferred to the Pension Fund.

UNFUNDED ACCRUED LIABILITY The excess of the Actuarial Accrued Liability over the Assets.